

nanoparticles are spaced at an energy spacing of approximately 1 eV, which makes no sense at all.” However, claim 4 actually reads, “wherein said silicon nanoparticles exhibit an energy spacing of approximately 1 eV”. Applicants respectfully submit that the term “energy spacing” as used in the claim would be understood by one in the art to mean the spacing between the quantum confinement energy levels of a charge carrier of mass m in a silicon nanoparticle of diameter d . Energy spacing is also described in the present specification, for example page 8, lines 1-3. Applicants respectfully submit that one skilled in the art would thus comprehend the intended meaning of the term “energy spacing” as used in claim 4. Accordingly, one skilled in the art reading claim 4 in light of the present specification would understand the subject matter claimed. For at least these reasons, Applicants respectfully request reconsideration and withdrawal of the rejection.

Claims 1, 5, and 8 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Chen. Applicants respectfully traverse the rejection.

In response to Applicants’ submission that Chen neither teaches nor suggests the feature of silicon nanoparticles having a diameter of approximately 1 nm, and that Chen discloses a layer thickness of 1 to 2 nm only for a nanocrystal embodiment having a significantly larger width and length, the Office Action states that “Figure 8 (of Chen) shows that the Chen quantum dots have a diameter, and Figure 9 shows that the height and the diameter are substantially the same, so a 1 nm thick dot would also have a 1 nm diameter.” Applicants respectfully traverse this statement.

The Office Action, to support its rejection, appears to pick and choose the bottom of the thickness range disclosed for the embodiment of FIGs. 1 and 2, and concludes this minimum thickness is the same as the thickness as the nanocrystals of the separate embodiment shown in FIGs. 8 and 9. However, Applicants respectfully submit that the Examiner has not cited support for the conclusion that the 1-2 nm thick nanocrystals described in the specification referring to FIGs. 1 and 2 indicate a similarly-sized nanocrystal in FIGs. 8 and 9.

Furthermore, the Office Action cites the thickness of the embodiment of FIGs. 1 and 2, while apparently dismissing the specific teaching of Chen that the nanoparticles of FIGs. 1 and 2 have a substantially larger width than thickness. To support this reasoning, the Office Action refers to FIG. 9. However, nothing in Chen appears to state or suggest that FIGs. 8 and 9 are to scale. Additionally, the specification portions of Chen relating to FIGs. 8 and 9 do not teach or suggest that the height of a quantum dot according to Chen is "substantially the same" as its thickness. This reliance upon Figure 9 alone for a teaching that "the height and the diameter are substantially the same", without reference to a portion in the specification that suggests this conclusion, runs contrary to well-established law. As clearly stated in, for example, MPEP 2126, proportions of features in a drawing are not evidence of actual proportions when drawings are not to scale. Patent drawings do not define precise proportions of elements and may not be relied on to show particular sizes if the specification is completely silent on the issue. Thus, without disclosure in the specification

to interpret FIG. 9 in this manner, the Figure cannot be relied upon to teach this point.

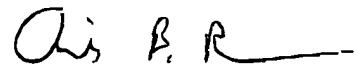
For at least the above reasons, Applicants respectfully submit that claims 1, 5, and 8 are allowable over the references of record, including Chen. The claims dependent on claims 1, 5, and 8 are submitted to be allowable for at least the reasons as applied to their respective independent claims, among other reasons.

For the foregoing reasons, Applicants believe that this case is in condition for allowance, which is respectfully requested. The Examiner should call Applicants' attorney if an interview would expedite prosecution.

Respectfully submitted,

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